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Factors affecting hotel managers' intentions to adopt robotic technologies: A global study

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ABSTRACT

The objective of this study that was conducted with 1077 hotel managers in 11 countries in North and South America, Europe, Asia and the Middle East, was to identify the effects of technological, organizational, and environmental (TOE) factors on hotel managers' intentions to adopt robotic technologies in their hotels. Structural equation modeling (SEM) was utilized to test the study hypotheses. The results indicated that hotel managers' intention to adopt robotic technologies were positively influenced by their perceived relative advantage, competitive pressure and top management support and negatively influenced by their perceived complexity of the technology. The study results further demonstrated that the impacts of relative advantage, complexity, top management support, and competitive advantage on intention to adopt were moderated by innovativeness. The current study also addressed the theoretical and practical implications to existing knowledge and practice in the hotel industry.

1. Introduction

With the advancements in technology and more specifically robotics and artificial intelligence (AI), robots are penetrating our lives unremittingly. A robot can be defined as a programmable machine capable of carrying out a complex series of actions automatically that can substitute for humans and replicate human actions. Industrial robots have been around for over three decades now and are currently being used in various industries, including manufacturing (Belk, 2017), transportation (Bae and Chung, 2019; Maurer et al., 2016), agriculture (De Koning and Rodenburg, 2004), healthcare and medicine (Hung, 2020), and logistics (Min, 2010).

Social robots have also penetrated the senior care industry (Čaić et al., 2018) and education (de Kervenoael et al., 2020). The hospitality and tourism industries are no exception (Cha, 2020). Many hospitality and tourism organizations around the world, have already implemented robotic applications across various contexts (Collins, 2020). **AI increasingly gives the capability of decision making to machines, bringing a range of disruptions in tourism and hospitality industries (**Buhalis, 2020; Buhalis et al., 2019**). For example, Henn-na Hotel in Japan introduced the first robotic hotel with fully automated customer services (**Buhalis and Leung, 2018**).**

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